

What is claimed is:-

1. A communication routing apparatus comprising:-

input transmission line means;

output transmission line means;

input processing means for processing signals received from the input transmission line means into an intermediate form having predetermined characteristics, the processing of each signal being dependent on its source;

output processing means for processing signals in said intermediate form, produced by the input processing means, into signals in selected forms, the processing of each signal being dependent on its destination; and

transmission means for transmitting signals, produced by the output processing means, via the output transmission line means to their destinations.

2. An apparatus according to claim 1, including means storing a plurality of input signal processing mapping definitions, wherein the input processing means is configured to select an input signal processing mapping definition in dependence on the source of the signal being processed and process said signal according to the selected input signal processing mapping definition to convert said signal into said intermediate form.

3. An apparatus according to claim 1, including means storing a plurality of output signal processing mapping definitions, wherein the output processing means is configured to select an output signal processing mapping definition in dependence on the destination of the signal being processed and process said signal according to the selected output signal processing mapping definition to convert said signal into the form required according to its destination.

4. An apparatus according to claim 1, including storage means for storing signals produced by the input processing means, wherein the output processing means reads signals in said intermediate form from the storage means before processing them.

5. An apparatus according to claim 1, including storage means for storing signals, received by the input processing means, so as to maintain a record of received signals.

5 6. An apparatus according to claim 2, wherein the input processing means is adapted to determine the source of a received signal from a buffer location from which it is taken for processing and select the appropriate input mapping definition in dependence thereon.

10 7. An apparatus according to claim 6, wherein the input processing means is adapted to produce a plurality of signals in said intermediate form from a received signal comprising one transmission session.

8. An apparatus according to claim 3, wherein the output signal processing
15 means is adapted to obtain a signal destination id from each intermediate form signal being processed and select the appropriate output mapping definition in dependence thereon.

9. An apparatus according to claim 8, wherein the output signal processing
20 means is configured to send its output signals to buffer means selected in dependence on the destinations thereof.

10. An apparatus according to claim 2, wherein the input processing means is
25 configured to apply the selected input mapping definitions to perform data format conversions on data represented by said received signals.

11. An apparatus according to claim 10, wherein the input processing means is configured to add data to that represented by said received signals.

30 12. An apparatus according to claim 3, wherein the output processing means is configured to apply the selected output mapping definitions to perform data format conversions on data represented by said intermediate form signals.

13. An apparatus according to claim 1, wherein the input and output signals represent data files.

14. An apparatus according to claim 1, wherein the intermediate format signals
5 represent data in tables of a database.

15. An apparatus according to claim 14, wherein each table comprises data from a plurality of input signals and each input signal provides data for a plurality of tables of said database.

10 17. An apparatus according to claim 1, configured to process signal in layer 7 of the OSI networking reference model.

18. An invoice routing apparatus comprising:-

15 receiving means for receiving invoices;

input processing means for processing received invoices into an intermediate form having predetermined characteristics, the processing of each invoice being dependent on the identity of the raiser of the invoice;

20 output processing means for invoices in said intermediate form, produced by the input processing means, into invoices in selected forms, the processing of invoice in said intermediate form being dependent on the identity of the party being invoiced; and

transmission means for transmitting invoices, produced by the output processing means their destinations.

25 19. An apparatus according to claim 18, including means storing a plurality of input invoice mapping definitions, wherein the input processing means is configured to select an input invoice mapping definition in dependence on the raiser of the invoice being processed and process said invoice according to the selected
30 input invoice mapping definition to convert said invoice into said intermediate form.

20. An apparatus according to claim 18, including means storing a plurality of output invoice mapping definitions, wherein the output processing means is configured to select an output invoice mapping definition in dependence on the party being invoiced and process said invoice according to the selected output invoice mapping definition to convert said signal into the form required by the party being invoiced.

21. An apparatus according to claim 18, including storage means for storing intermediate form invoices produced by the input processing means, wherein the output processing means reads invoices in said intermediate form from the storage means before processing them.

22. An apparatus according to claim 18, including storage means for storing invoices, received by the input processing means, so as to maintain a record of received invoices.

23. An apparatus according to claim 19, wherein the input processing means is adapted to determine the source of a received invoice from a buffer location from which it is taken for processing and select the appropriate input invoice mapping definition in dependence thereon.

24. An apparatus according to claim 23, wherein the input processing means is adapted to produce a plurality of invoices in said intermediate form from a collection of invoices received together.

25. An apparatus according to claim 18, wherein the output processing means is adapted to obtain an invoice destination id from each intermediate form invoice being processed and select the appropriate output invoice mapping definition in dependence thereon.

26. An apparatus according to claim 25, wherein the output processing means is configured to send its output invoices to buffer means selected in dependence on the destinations thereof.

27. An apparatus according to claim 19, wherein the input processing means is configured to apply the selected input invoice mapping definitions to perform data format conversions on data represented by said received signals.

5

28. An apparatus according to claim 27, wherein the input processing means is configured to add data to that represented by said received invoices.

10

29. An apparatus according to claim 20, wherein the output processing means is configured to apply the selected output invoice mapping definitions to perform data format conversions on intermediate form invoices.

30. An apparatus according to claim 18, wherein the received and transmitted invoices are represented by data files.

15

31. An apparatus according to claim 18, wherein the intermediate form invoices are represented by data in tables of a database.

20

32. An apparatus according to claim 31, wherein each table comprises data from a plurality of input signals and each input signal provides data for a plurality of tables of said database.

33. An invoice routing method comprising:-

25

receiving an invoice;

electronically processing said received invoice into an intermediate form having predetermined characteristics in dependence on the identity of the raiser of the invoice;

electronically processing said intermediate form invoice into an invoice in a form selected in dependence on the identity of the party being invoiced; and

30

sending said invoice in said selected form to its destination.

34. A method according to claim 33, including storing a plurality of input invoice mapping definitions and selecting an invoice mapping definition from said

stored input invoice mapping definition for use in said electronic processing of said received invoice in dependence on the raiser of said invoice.

35. A method according to claim 33, including storing a plurality of output
5 invoice mapping definitions and selecting an output invoice mapping definition
from said stored output invoice mapping definitions for using in said electronic
processing of said received invoice in dependence on the party being invoiced.

36. A method according to claim 33, storing said intermediate form invoice and
10 reading said intermediate form invoice from where it has been stored before
processing it into said selected form.

37. A method according to claim 33, storing said invoice as received in a
received invoice archive.

38. A method according to claim 34, wherein the processing of said received
invoice comprises determining the source of said received invoice from a buffer
location from which it is taken for processing and selecting the appropriate input
invoice mapping definition in dependence thereon.

39. A method according to claim 35, wherein the processing of said intermediate
form invoice comprises obtaining an invoice destination id therefrom and selecting
the appropriate output invoice mapping definition in dependence thereon.

40. A method according to claim 39, wherein the output processing means is
configured to send its output invoices to buffer means selected in dependence on
the destinations thereof.

41. A method according to claim 34, wherein the processing of said received
30 invoice comprises apply the selected input invoice mapping definitions to perform
data format conversion on said received invoice.

41. A method according to claim 41, wherein the processing of said received invoice includes adding data to said received invoice.

42. A method according to claim 35, wherein the processing of said intermediate form invoice comprises applying the selected output invoice mapping definition to perform data format conversions on said intermediate form invoice.

43. A method according to claim 33, wherein the received and transmitted invoices are represented by data files.

44. A method according to claim 33, wherein said intermediate form invoice comprises data in tables of a database.

45. A method according to claim 44, wherein each table comprises data from a plurality of received invoices and received invoice provides data for a plurality of tables of said database.